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ABSTRACT

A study explored the influence of two variables, 1) experience in viewing one's own classroom behavior through video tape and 2) training in the analysis of teaching behavior, on the self evaluation of student teachers. Subjects were 66 student teachers assigned to three groups: group 1 receiving 48 hours of training in analysis of teaching behavior and viewing video tape recordings of their teaching three times during the student teaching experience, group 2 receiving no special training and viewing their teaching three times, and group 3 receiving no special training and viewing their teaching behavior only once, at the end of the student teaching experience. After each video taping the student teacher viewed the recording and answered four open-ended self evaluation questions. Answers were coded using an 18-category Data Coding System which classifies all statements under five broad categories: 1) Physical Aspects of the Environment, 2) Personal Characteristics of the Teacher, 3) Teaching Behavior, 4) Pupil Behavior, 5) Content of the Lesson. Critical ratio technique and t tests were used to identify significant differences between groups and item choices. Results showed group 1 self evaluation focusing more on the teaching act as opposed to group 2 and 3 focus on themselves as persons. Both groups 1 and 2 shifted focus increasingly, with experience in video tape self analysis, toward more concern with the teaching act. (The Data Coding System is included.) (JS)

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MEASURING THE SELF-EVALUATION OF TEACHING BEHAVIOR THROUGH THE USE OF VIDEO TAPE

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INTRODUCTION

Teacher evaluation is one of the most controversial issues in education. While there is no one answer to the questions of what good teaching is and who should evaluate teaching acts, most teachers agree they must judge their own effectiveness. Skills of self-evaluation are often assumed to automatically accompany degrees and certificates, when they must, in reality, be developed by teachers themselves. Yet how does one look at his own behavior; what data does he use to judge his own competency; what constitutes a self-evaluation?

The advent of portable video taping equipment has made it technically possible to research these questions. This paper reports a study designed (1) to develop procedures for quantifying self-evaluations of teachers and (2) to identify the factors involved in these self-evaluations.

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P R O B L E M

The purpose of the study was to identify the factors in student teacher's self-evaluations of their classroom behavior. An attempt was made to determine what influence two variables, (1) experience in veiwing one's own classroom behavior through the medium of video-tape and (2) training in the analysis of teaching behavior, had on the self-evaluations of student teachers. Research questions were:

(1) Does experience in viewing her own teaching behavior have an influence on a teacher's self-evaluation?

(2) Does training in certain observational techniques influence self-evaluations?

(3) What changes occur in teachers' self-evaluations over a period of time?

M E T H O D

Subjects:

The subjects were sixty-six student teachers in elementary education from a southeastern university. All subjects were females and had similar professional preparation. They were assigned to three groups of twenty-two subjects each. Group I served as an experimental group and received forty-eight hours of training in the analysis of teaching behavior. Each member of the group viewed video-taped recordings of her teaching behavior three times during the student teaching experience. Group II served as a second experimental group; this group received no special training and viewed their teaching behavior only once, at the end of the student teaching experience, and this group received no special training.

Group II, the control group, was video taped

→ 3 times during the student teaching experience.

Training Procedures:

Group I received training in analysis of teaching behavior during two hour sessions twice a week for twelve weeks during the student teaching experience. This training included:

(1) Instruction in the operation of video-tape equipment.

(2) The formulation and writing of educational objectives in behavioral terms.

(3) The use of two systems of classroom observation: Reciprocal Category System[1] and Florida Taxonomy of Cognitive Behavior.[2] These two observation systems reflect two different dimensions of the classroom.

Data Collection:

Each member of Groups I and II was video-taped three times teaching a fifteen minute lesson under actual classroom conditions. The video-tapings were made atseven-week intervals. Members of Group III were video-taped only once during the thirteenth week of student teaching.

Immediately after each video-tape experience, the student teacher privately viewed the video-tape recording of the lesson she had first taught. She was then interviewed with the use of an interview guide which consisted of four open-ended questions:

(1) How do you feel about the lesson you just viewed?

(2) What did you see that you liked about yourself? About the lesson?

(3) What did you see that you didn't like about yourself? About the lesson?

(4) If you were to teach this lesson again, would you change it in any way?

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[1] E. L. Bentley and E. Miller, Systematic Observation, the Reciprocal Category System (Atlanta: Supplementary Educational Center, 1969.)

[2] J. N. Webb, The Florida Taxonomy of Cognitive Behavior: A Working Manual in A. Simon and E. G. Boyer (Ed.) Mirrors for Behavior, Vol. 8 (Philadelphia: Research for Better Schools, Inc., 1970).

These questions allowed the interviewee to express herself freely, but at the same time, to keep her remarks relevant to the lesson taught. The questions were so structured to produce unrestricted responses. It was designed, not as a teaching device, but as an instrument to solicit unstructured evaluations of the video-taped lessons.

These questions were presented orally to the subjects immediately after they had viewed their own teaching behavior on video-tape. Both the question and the response were recorded on audio tape, and all were transcribed at the end of the data collection period.

Analysis of Data:

To avoid forcing the teachers' responses into prearranged categories, a classification system was devised only after all data had been collected and thoroughly examined. It was found that all of the subjects' statements could be classified under five broad categories:

(1) Physical Aspects of the Environment

(2) Personal Characteristics of the Teacher

(3) Teaching Behavior

(4) Pupil Behavior

(5) Content of Lesson

These five categories included eighteen items and within these items the statements could be further classified as being negative or positive. The result was a category system by which trained coders classify the responses of each interview. (Refer to Figure 1) This classification system made it possible to examine both what the subjects chose to discuss and the items some ignored.

The critical ratio technique was used to identify significant differences between the self-evaluations of the three groups. It was selected because it made possible a comparison of the percentages of responses within each item among groups. The technique gave total summed responses for each item choice and converted these total sums into percents. The t test was

then utilized to determine if there was any significant differences between percentages for each item choice among the three groups.

R E S U L T S

In order to determine the differences between the self-evaluations of student teachers who had experiences in viewing their teaching behavior with the self-evaluations of those who had not had this experience, comparisons were made between the third interviews of both experimental groups (Group I and II) and the only interview of the control group (Group III). Tables 1 and 2 report the results of the comparisons.

When the self-evaluative responses of the teachers who had undergone training in the analysis of teaching behavior and had observed and evaluated their own teaching behavior three times were compared with the teachers who had only had the single viewing experience, there were statistically significant differences within twelve of the eighteen items of the category system. The group with training indicated more concern with the control of pupil behavior, the objective of their lesson, how they had prepared and presented it, the cognitive level of the questions they asked, and how they had met the needs of their pupils. Their comments in these areas were generally positive in nature. Those in the control group were more concerned about themsevles as persons and talked about their voice quality and personal mannerisms as well as their tendency to look their pupils in the eye. The comments they made about these items were negative in nature.

It would seem that the teachers in the experimental group tended to focus on the teaching act and were generally pleased with what they saw; whereas, the control group were much more concerned about themselves as persons and tended not to like what they saw.

The data reported in Table 2 tends to support this generalization. When the self-evaluative responses of the second experimental group, those student teachers who had no training in the analysis of teaching behavior, but did have experience in viewing their own classroom behavior, were compared with the control group and statistically significant differences were found within six of the eighteen items of the category

system. The control group talked more about voice and personal mannerisms in a negative manner, while the experimental group showed concern over meeting pupils' needs.

Table 3 reports the comparison made between the self-evaluation responses of the two experimental groups (Group I and II) in an attempt to determine what influence the training in the analysis of teaching behavior had on the self-evaluations of the student teachers. Both groups had the same experiences in viewing video-tape recordings of their classroom behavior; in addition, Group I underwent training in the analysis of teaching behavior. There were differences in statements coded within only three of the eighteen items that reached statistical significance. The group with training made more statements concerning their control of pupil behavior (discipline) and their ability to get their pupils to participate actively in the lesson and generally felt their objectives had been met. The data also indicates that Group I tended to make more statements which were coded in the items representing the instructional act than did Group II.

The last comparisons made can be found in Tables 4 and 5. The evaluative responses made in the first and third interviews of Group I, teachers with training, were compared in an effort to identify changes in self-evaluations as the student teachers gained in experience. The results of this comparison are reported in Table 4. The data indicates that as the student teachers underwent training in the analysis of teaching behavior and gained experience both in teaching and viewing their own classroom behavior on video-tape, they tended to shift focus when evaluating their teaching. The shift was from displeasure concerning their personal characteristics--quality of voice, verbal mannerism, personal appearance--to approval of the lesson they had taught. They made significantly more comments of a positive nature in the third evaluation about the preparation of the lesson, the kind of questions asked and their ability to meet the needs of their pupils.

The same comparison was made for Group II, who received no special training, and is reported in Table 5. This group also evidenced decreased concern over personal characteristics. They, like Group I in the first interview, made negative statements about personal characteristics, voice, and personal

appearance. However, the shift to a focus on the teaching act was not as apparent with this group. The only responses aside from those concerned with personal characteristics that showed a statistically significant change were those that were coded in the item "Teacher Enthusiasm." These responses shifted from a negative to a positive nature from the first to the last interview.

C O N C L U S I O N S

The data from this study very clearly illustrates on what factors the student teachers tended to focus when they were free to evaluate their own teaching performance without externally imposed criteria. All of the student teachers in this study tended to look at:

(1) themselves as people

(2) themselves as teachers

(3) their pupils

(4) the teaching act itself.

It was also found that experience in viewing video-taped recordings of their own teaching behavior was accompanied by a shift in the focus of the self-evaluative comments made by the student teachers. Those teachers who had several opportunities to view their classroom behavior tended to move from concern about how they looked and acted to an increasing emphasis on the teaching act. This emphasis was slightly more pronounced if the teacher had been trained in skills in the analysis of teaching behavior. However, the major influence seemed to be the video-tape experience; it gave these student teachers the opportunity to video their classroom behavior as an outside observer.

This study demonstrated that self-evaluations of teaching behavior can be measured with the use of video-tape and an interview guide and a coding system. Although a final judgment as to what makes a good evaluation cannot be made until teaching competence can be more clearly defined, this study would indicate that experience with viewing one's own behavior does focus student teachers' concern on the instructional act.

Figure 1

DATA CODING SYSTEM

1. Physical Aspects of the Situation. This dealt mainly with the presence of the video-tape equipment. Two items were included in this category:

   (a) Video-Tape Equipment. This included video recorder and camera.

   (b) Microphone. This item was explicitly named by some student teachers who, for some reason, did not see this item as part of the video-tape equipment.

2. Personal Aspects. The student teacher commented upon how she perceived herself on the video-tape. Four items were included in this category:

   (a) Voice. Included in this item were pitch, quality, clarity, and dialect.

   (b) Appearance.

   (c) Non-verbal Mannerisms

   (d) Verbal Mannerisms. This referred to speech characteristics such as repetition of certain words.

3. Teacher Behavior.

   (a) Enthusiasm. The enthusiasm the teacher exhibited while teaching the lesson.

   (b) Verbal Behavior. Refers to the amount of talking by the teacher throughout the lesson.

4. Awareness of Pupil Behavior. This category dealt with the student teacher's awareness of the pupils' behavior as she taught the lesson. This category contained five items:

   (a) Recognition of Eye Contact with Pupils.

   (b) Control of Pupil Behavior. Discipline.

4. (c) Recognition of Individual Pupils. The student teacher named or singled out an individual in her class.

(d) Attentiveness of Class during Lesson. This referred to awareness of place in the lesson by the pupils and the posture of the class.

(e) Participation of Pupils. The student teacher mentioned that she called on all of the pupils, that the pupils volunteered answers, or the class climate.

5. Lesson. This category contained five items:

(a) Objectives. The student teacher mentioned the objective of her lesson or stated that she had met her objective.

(b) Preparation for Lesson. The planning for the lesson was adequate or inadequate.

(c) Cognitive Level of Questions Asked. The student teacher mentioned the types of questions or the level of cognition.

(d) Recognition of Pupils' Needs. The needs referred to in this item were intellectual, emotional, social, and physical.

(e) Presentation - Pacing. This item referred to the smoothness, understandability, clarity and conciseness of the lesson.

* P.05 = 1.96
** P.01 = 2.58

TABLE I

Difference Between Per Cents During the Third Interview
(Group I, Experimental Group, and Group III, a Control Group)

Items	Nature of Statement: Positive			Negative			Both Positive and Negative Statements			Omit		
	Per Cents		t	Per Cents		t	Per Cents		t	Per Cents		t
	Group I	Group III		Group I	Group III		Group I	Group III		Group I	Group III	
I. Physical Aspects of the Situation												
1. Video-tape Equip.	22.7	0.0	2.38*	4.5	9.1	-0.60	0.0	0.0	0.0	72.7	90.9	-1.56
2. Microphone	4.5	0.0	1.01	0.0	0.0	0.0	0.0	0.0	0.0	95.5	100.0	-1.01
II. Personal Aspects												
3. Voice	13.6	9.1	0.47	0.0	27.3	-2.64**	0.0	9.1	-1.45	86.4	54.5	2.31*
4. Appearance	4.5	9.1	-0.60	0.0	9.1	-1.45	0.0	0.0	0.0	95.5	81.8	1.43
5. Non-Verbal Mannerisms	4.5	0.0	1.01	0.0	27.3	-2.64**	0.0	0.0	0.0	95.5	72.7	2.06*
6. Verbal Mannerisms	0.0	0.0	0.0	0.0	50.0	-3.83**	0.0	0.0	0.0	100.0	50.0	3.83**
III. Teacher Behavior												
7. Enthusiasm	40.9	31.8	0.63	13.6	4.5	1.05	4.5	0.0	1.01	40.9	63.6	-1.51
8. Verbal Behavior of Teacher	0.0	0.0	0.0	9.1	4.5	0.60	0.0	0.0	0.0	90.9	95.5	-0.60
IV. Awareness of Pupil Behavior												
9. Recognition of Eye Contact with Pupil	0.0	18.2	-2.10*	9.1	0.0	1.45	0.0	4.5	-1.01	90.9	77.3	1.24
10. Control of Pupil Behavior	9.1	9.1	0.0	31.8	0.0	2.89**	0.0	0.0	0.0	59.1	90.9	-2.44*
11. Recognition of Individual Pupil	0.0	0.0	0.0	27.3	9.1	1.56	0.0	0.0	0.0	72.7	90.9	-1.56
12. Attentiveness of class during lesson	36.4	31.8	0.32	9.1	0.0	1.45	4.5	0.0	1.01	50.0	68.2	-1.23
13. Participation of Pupils	36.4	18.2	1.35	18.2	0.0	2.10*	0.0	13.6	-1.79	45.5	68.2	-1.52
V. Lesson												
14. Objectives	27.3	0.0	2.64**	4.5	0.0	1.01	0.0	0.0	0.0	68.2	100.2	-2.89**
15. Prep. for Lesson	22.7	0.0	2.38**	13.6	13.6	0.0	0.0	4.5	-1.01	63.6	81.8	-1.35
16. Realized Cognitive Level of Questions Asked	22.7	0.0	2.38**	0.0	0.0	0.0	0.0	0.0	0.0	77.3	100.0	-2.38**
17. Recognition of Pupil Needs	40.9	9.1	2.44*	9.1	4.5	0.60	0.0	0.0	0.0	50.0	86.4	-2.59**
18. Presentation of Lesson	50.0	13.6	2.59**	4.5	13.6	-1.05	0.0	0.0	0.0	40.9	72.7	-2.13*

* P.05 = 1.96
** P.01 = 2.58

TABLE I I

Difference Between Per Cents During the Third Interview
(Group II, Experimental Group, and Group III, a Control Group)

Items	Nature of Statement: Positive			Negative			Both Positive and Negative Statements			Omit		
	Per Cents		t	Per Cents		t	Per Cents		t	Per Cents		t
	Group II	Group III		Group II	Group III		Group II	Group III		Group II	Group III	
I. Physical Aspects of the Situation												
1. Video-tape Equip.	22.7	0.0	2.38*	9.1	9.1	0.0	0.0	0.0	0.0	68.2	90.9	-1.87
2. Microphone	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0
II. Personal Aspects												
3. Voice	9.1	9.1	0.0	4.5	27.3	-2.06*	4.5	9.1	-0.60	81.6	54.5	1.94
4. Appearance	0.0	9.1	-1.45	0.0	9.1	-1.45	0.0	0.0	0.0	100.0	81.8	2.10*
5. Non-Verbal Mannerisms	0.0	0.0	0.0	4.5	27.3	-2.06*	0.0	0.0	0.0	95.5	72.7	2.06*
6. Verbal Mannerisms	0.0	0.0	0.0	13.6	50.0	-2.59**	0.0	0.0	0.0	86.4	50.5	2.59**
III. Teacher Behavior												
7. Enthusiasm	36.4	31.8	0.32	0.0	4.5	-1.01	0.0	0.0	0.0	63.6	63.6	0.0
8. Verbal Behavior of Teacher	9.1	0.0	1.45	0.0	4.5	-1.01	0.0	0.0	0.0	90.9	95.5	-0.60
IV. Awareness of Pupil Behavior												
9. Recognition of Eye Contact with Pupil	9.1	18.2	-0.88	4.5	0.0	1.01	0.0	4.5	-1.01	86.4	77.3	0.78
10. Control of Pupil Behavior	4.5	9.1	-0.60	9.1	0.0	1.45	0.0	0.0	0.0	86.4	90.9	-0.47
11. Recognition of Individual Pupil	4.5	0.0	1.01	9.1	9.1	0.0	0.0	0.0	0.0	86.4	90.9	-0.47
12. Attentiveness of class during lesson	45.5	31.8	0.93	4.5	0.0	1.01	0.0	0.0	0.0	50.0	68.2	-1.23
13. Participation of Pupils	40.9	18.2	1.65	0.0	0.0	0.0	4.5	13.6	-1.05	54.5	68.2	-0.93
V. Lesson												
14. Objectives	4.5	0.0	1.01	0.0	0.0	0.0	0.0	0.0	0.0	95.5	100.0	-1.01
15. Prep. for Lesson	9.1	0.0	1.45	9.1	13.6	-0.47	0.0	4.5	-1.01	81.8	81.8	0.0
16. Realized Cognitive Level of Questions Asked	4.5	0.0	1.01	0.0	0.0	0.0	0.0	0.0	0.0	95.5	100.0	-1.01
17. Recognition of Pupil Needs	36.4	9.1	2.16*	4.5	4.5	0.0	4.5	0.0	1.01	54.5	86.4	-2.31*
18. Presentation of Lesson	22.7	13.6	0.78	18.2	13.6	0.41	4.5	0.0	1.01	54.5	72.7	-1.25

* P.05 = 1.96
** P.01 = 2.58

TABLE III

Difference Between Per Cents During the Third Interview
(Group I, Experimental Group, and Group ~~II, a control Group~~ II Experimental)

Items	Nature of Statement: Positive			Negative			Both Positive and Negative Statements			Omit		
	Per Cents		t	Per Cents		t	Per Cents		t	Per Cents		t
	Group I	Group II		Group I	Group II		Group I	Group II		Group I	Group II	
I. Physical Aspects of the Situation												
1. Video-tape Equip.	22.7	22.7	0.0	4.5	9.1	-0.60	0.0	0.0	0.0	72.7	68.2	0.33
2. Microphone	4.5	0.0	1.01	0.0	0.0	0.0	0.0	0.0	0.0	95.5	100.0	-1.01
II. Personal Aspects												
3. Voice	13.6	9.1	0.47	0.0	4.5	-1.01	0.0	4.5	-1.01	86.4	81.8	0.41
4. Appearance	4.5	0.0	1.01	0.0	0.0	0.0	0.0	0.0	0.0	95.5	100.0	-1.01
5. Non-Verbal Mannerisms	4.5	0.0	1.01	0.0	4.5	-1.01	0.0	0.0	0.0	95.5	95.5	0.0
6. Verbal Mannerisms	0.0	0.0	0.0	0.0	13.6	-1.79	0.0	0.0	0.0	100.0	86.4	1.79
III. Teacher Behavior												
7. Enthusiasm	40.9	36.4	0.31	13.6	0.0	1.79	4.5	0.0	1.01	40.9	63.6	-1.51
8. Verbal Behavior of Teacher	0.0	9.1	-1.45	9.1	0.0	1.45	0.0	0.0	0.0	90.9	90.9	0.0
IV. Awareness of Pupil Behavior												
9. Recognition of Eye Contact with Pupil	0.0	9.1	-1.45	9.1	4.5	0.60	0.0	0.0	0.0	90.9	86.4	0.47
10. Control of Pupil Behavior	9.1	4.5	0.60	31.8	9.1	1.87	0.0	0.0	0.0	59.1	86.4	-2.03*
11. Recognition of Individual Pupil	0.0	4.5	-1.01	27.3	9.1	1.56	0.0	0.0	0.0	72.7	86.4	-1.12
12. Attentiveness of class during lesson	36.4	45.5	-0.61	9.1	4.5	0.60	4.5	0.0	1.01	50.0	50.0	0.0
13. Participation of Pupils	36.4	40.9	-0.31	18.2	0.0	2.10*	0.0	4.5	-1.01	45.5	54.5	-0.60
V. Lesson												
14. Objectives	27.3	4.5	2.06*	4.5	0.0	1.01	0.0	0.0	0.0	68.2	95.5	-2.35*
15. Prep. for Lesson	22.7	9.1	1.24	13.6	9.1	0.47	0.0	0.0	0.0	63.6	81.8	-1.35
16. Realized Cognitive Level of Questions Asked	22.7	4.5	1.76	0.0	0.0	0.0	0.0	0.0	0.0	77.3	95.5	-1.76
17. Recognition of Pupil Needs	40.9	36.4	0.31	9.1	4.5	0.60	0.0	4.5	-1.01	50.0	54.5	-0.30
18. Presentation of Lesson	50.0	22.7	1.88	4.5	18.2	-1.43	4.5	4.5	0.0	40.9	54.5	-0.91

* P.05 = 1.96
** P.01 = 2.58

TABLE IV From the First to
Difference Between Per Cents ~~During~~ the Third Interview
(Group I, Experimental Group) ~~and Group III, a Control Group~~)

Items	Nature of Statement: Positive			Negative			Both Positive and Negative Statements			Omit		
	Per Cents			Per Cents			Per Cents			Per Cents		
	First Interview	Third Interview	t	First Interview	Third Interview	t	First Interview	Third Interview	t	First Interview	Third Interview	t
I. Physical Aspects of the Situation												
1. Video-tape Equip.	0.0	22.7	-2.38*	50.0	4.5	3.39**	0.0	0.0	0.0	50.0	72.7	-1.55
2. Microphone	0.0	4.5	-1.01	18.2	0.0	2.10*	0.0	0.0	0.0	81.8	95.5	-1.43
II. Personal Aspects												
3. Voice	4.5	13.6	-1.05	40.9	0.0	3.36**	0.0	0.0	0.0	54.5	86.4	-2.31*
4. Appearance	9.1	4.5	0.60	27.3	0.0	2.64**	4.5	0.0	1.01	59.1	95.5	-2.88**
5. Non-Verbal Mannerisms	4.5	4.5	0.0	22.7	0.0	2.38*	0.0	0.0	0.0	72.7	95.5	-2.06
6. Verbal Mannerisms	0.0	0.0	0.0	9.1	0.0	1.45	0.0	0.0	0.0	90.9	100.0	-1.45
III. Teacher Behavior												
7. Enthusiasm	4.5	40.9	-2.88**	27.3	13.6	1.12	0.0	4.5	-1.01	68.2	40.9	1.82
8. Verbal Behavior of Teacher	0.0	0.0	0.0	18.2	9.1	0.88	0.0	0.0	0.0	81.8	90.9	-0.88
IV. Awareness of Pupil Behavior												
9. Recognition of Eye Contact with Pupil	0.0	0.0	0.0	18.2	9.1	0.88	0.0	0.0	0.0	81.8	90.9	-0.88
10. Control of Pupil Behavior	13.6	9.1	0.47	22.7	31.8	-0.68	0.0	0.0	0.0	63.6	59.1	0.31
11. Recognition of Individual Pupil	13.6	0.0	1.79	22.7	27.3	-0.35	0.0	0.0	0.0	63.6	72.7	-0.65
12. Attentiveness of class during lesson	40.6	36.4	0.31	13.6	9.1	0.47	0.0	4.5	-1.01	45.5	50.0	-0.30
13. Participation of Pupils	27.3	36.4	-0.65	13.6	18.2	-0.41	13.6	0.0	1.79	45.5	45.5	0.0
V. Lesson												
14. Objectives	9.1	27.3	-1.56	4.5	4.5	0.0	0.0	0.0	0.0	86.4	68.2	1.44
15. Prep. for Lesson	0.0	22.7	-2.38*	18.2	13.6	0.41	0.0	0.0	0.0	81.8	63.6	1.35
16. Realized Cognitive Level of Questions Asked	0.0	22.7	-2.38*	13.6	0.0	1.79	4.5	0.0	1.01	81.8	77.3	0.37
17. Recognition of Pupil Needs	9.1	40.9	-2.44*	22.7	9.1	1.24	0.0	0.0	0.0	68.2	50.0	1.23
18. Presentation of Lesson	36.4	50.0	-0.91	9.1	4.5	0.60	0.0	4.5	-1.01	54.5	54.5	0.91

* P.05 = 1.96
** P.01 = 2.58

TABLE V From the First to
Difference Between Per Cents During the Third Interview
(Group II, Experimental Group) ~~and Group III, a Control Group~~)

Items	Nature of Statement: Positive			Negative			Both Positive and Negative Statements			Omit		
	Per Cents			Per Cents			Per Cents			Per Cents		
	First Interview	Third Interview	t	First Interview	Third Interview	t	First Interview	Third Interview	t	First Interview	Third Interview	t
I. Physical Aspects of the Situation												
1. Video-tape Equip.	4.5	22.7	-1.76	18.2	9.1	0.88	0.0	0.0	0.0	77.3	68.2	0.68
2. Microphone	0.0	0.0	-0.0	4.5	0.0	1.01	0.0	0.0	0.0	95.5	100.0	-1.01
II. Personal Aspects												
3. Voice	22.7	9.1	1.24	31.8	4.5	2.35*	0.0	4.5	-1.01	45.5	81.8	-2.51*
4. Appearance	0.0	0.0	0.0	18.2	0.0	2.10*	0.0	0.0	0.0	81.8	100.0	-2.10*
5. Non-Verbal Mannerisms	0.0	0.0	0.0	0.0	4.5	-1.01	0.0	0.0	0.0	100.0	95.5	1.01
6. Verbal Mannerisms	0.0	0.0	0.0	13.6	13.6	0.0	0.0	0.0	0.0	86.4	86.4	0.0
III. Teacher Behavior												
7. Enthusiasm	4.5	36.4	-2.62**	27.3	0.0	2.64**	0.0	0.0	0.0	68.2	63.6	0.32
8. Verbal Behavior of Teacher	0.0	9.1	-1.45	4.5	0.0	1.01	0.0	0.0	0.0	95.5	90.9	0.60
IV. Awareness of Pupil Behavior												
9. Recognition of Eye Contact with Pupil	4.5	9.1	-0.60	4.5	4.5	0.0	0.0	0.0	0.0	90.9	86.4	0.47
10. Control of Pupil Behavior	13.6	4.5	1.05	4.5	9.1	-0.60	0.0	0.0	0.0	81.8	86.4	-0.41
11. Recognition of Individual Pupil	0.0	4.5	-1.01	0.0	9.1	-1.45	0.0	0.0	0.0	100.0	86.4	1.79
12. Attentiveness of class during lesson	40.9	45.5	-0.30	9.1	4.5	0.60	0.0	0.0	0.0	50.0	50.0	0.0
13. Participation of Pupils	50.0	40.9	0.61	9.1	0.0	1.45	9.1	4.5	0.60	31.8	54.5	-1.52
V. Lesson												
14. Objectives	13.6	4.5	1.05	0.0	0.0	0.0	0.0	0.0	0.0	86.4	95.5	-1.05
15. Prep. for Lesson	0.0	9.1	-1.45	9.1	9.1	0.0	0.0	0.0	0.0	90.9	81.8	0.88
16. Realized Cognitive Level of Questions Asked	4.5	4.5	0.0	4.5	0.0	1.01	0.0	0.0	0.0	90.9	95.5	-0.60
17. Recognition of Pupil Needs	31.8	36.4	-0.32	4.5	4.5	0.0	0.0	4.5	-1.01	63.6	54.5	0.61
18. Presentation of Lesson	40.9	22.7	1.29	22.7	18.2	0.37	0.0	4.5	-1.01	36.4	54.5	-1.21